# Coping with the stress of a military deployment: Psychological and physical health

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### **OPTEMPO Report Series #9**



• Present psychological and physical health findings based on data from the U. S. Army, Europe & Seventh Army and U. S. Army Medical Research Unit-Europe OPTEMPO/PERSTEMPO study.



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This technical brief presents findings from a two-year longitudinal study designed to assess the impact of operations and personnel tempo on soldier and unit readiness, and focuses on issues of coping with the stress of military deployments.

- Using coping as a moderator, the impact of deployment stressors on soldier physical and psychological health was assessed.
- Higher overall deployment stressors predict lower psychological and physical health
  - Active coping can moderate this relationship such that when stress is high, and soldiers use **high active** coping, soldiers report better physical and psychological health.
- Higher family-deployment stressors predict lower psychological and physical health
  - Passive coping can intensify this relationship such that when family stress is high, and soldiers use **high passive** coping, soldiers report poorer psychological wellbeing scores.
- Soldiers can and do use active coping strategies in dealing with realworld military deployment stressor



- Coping style can buffer the effects of stressors on physical and psychological health
- Military deployments have unique stressors
  - dangers of the work environment
  - stressors related to family separation
- This study investigates the role of coping style in moderating the impact of stress on soldier physical and psychological health



## International Relevance of Peacekeeping

Nations involved in peacekeeping operations as of May 2001 (supplying humanitarian assistance, observers, police, and/or troops)

Albania, Algeria, Argentina, Australia, Austria, Azerbaijan, Bangladesh, Belgium, Benin, Bolivia, Bosnia and Herzegovina, Brazil, Bulgaria, Burkina Faso, Cameroon, Canada, Cape Verde, Chile, China, Colombia, Côte d'Ivoire, Croatia, Czech Republic, Denmark, Egypt, El Salvador, Estonia, Fiji, Finland, France, Gambia, Germany, Ghana, Greece, Guinea, Honduras, Hungary, Iceland, India, Indonesia, Ireland, Italy, Japan, Jordan, Kenya, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malawi, Malaysia, Mali, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Zealand, Niger, Nigeria, Norway, Pakistan, Paraguay, Peru, Philippines, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Senegal, Singapore, Slovak Republic, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Tanzania, Thailand, Tunisia, Turkey, Ukraine, United Kingdom, United States, United Arab Emirates, Uruguay, Vanuatu, Venezuela, Zambia, Zimbabwe



## **Overview of Research Program**

### **Stressors**

- Training Exercises
  - Days on Training Exercises
- Work load
- Work Overload
- Lost leave/pass
- Days on leave/pass
- Days TDY
- Hours of work per day
- Hours of work on day off
- Days performed duty-related work
- Hours of sleep per night
- Time spent in MOS
- Months in current Unit
- Overall Deployment Stressors
  - Family Deployment Stress
  - Work Deployment Stress

### **Contextual Moderators**

- Cohesion
- Horizontal cohesion
- Vertical Cohesion
- General Leadership Quality
- Environment (deployed)

### **Individual Moderators**

- Job Attitude
- Deployment Attitudes
- Deployment History
- Coping

### **Outcomes**

### **Medical Readiness**

- Psychological Wellbeing
  - Wellbeing (GHQ)
  - Depression (CES-D)
- Physical Wellbeing
  - Physical Symptom
  - Sick Call Rates
- Wellness Behaviors
  - Alcohol
  - Tobacco
  - Caffeine
  - Exercise

### Military Readiness

- Morale
- Mission Attitudes
  - Military Identity
  - Combat Readiness
  - Operational Readiness
  - Mission Readiness
- Career Intentions

### Soldier & Family Issues

- Work/Family Conflict
- Family/Work Conflict





### **PROCEDURE**

Surveys

### **SAMPLE**

 114 US Army soldiers who were deployed to non-combat peacekeeping missions (Kosovo and Southwest Asia)





## **Coping and Health on Deployment**

• Using coping as a moderator, the impact of deployment stressors on soldier physical and psychological health was assessed.

Military deployment stressors

### **Overall Deployment stressors**

- 12 items ( $\alpha$  = .78)

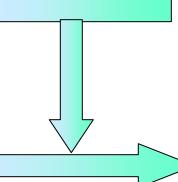
### Subscales:

- 1) Work-deployment stressors.
  - 7 items ( $\alpha = .87$ )
- 2) Family-deployment stressors
  - 5 items ( $\alpha = .65$ )

## Coping Strategies ACTIVE

**PASSIVE** 

RELIGIOUS



### Soldier health outcomes

### 1) CES-Depression

7 items ( $\alpha$  =.88), measures depression, sample items: "felt sad", "felt lonely"

### 2) GHQ-12

12 items ( $\alpha$  =.76), measures wellbeing, sample items: "felt constantly under strain," "been losing confidence in yourself."

### 3) Physical Health

Physical symptoms, 22 items, measures frequency of illness symptoms.



## Measures: Overall Deployment Stress

### Stressors unique to military deployment (sample items)

### **Work Deployment Stressors**

- concerns about accidents
- possible terrorist attacks
- safety of soldiers

### **Family Deployment Stressors**

- health problems of family members
- negative communications with spouse
- family finances







## The 17-item coping scale had three factors:

- Active
- Passive
- Religious



### **Sample Coping Scale Items**

### **Active coping**

Look for information about possible choices

Change what is causing the stress

Decide what needs to be done

### **Passive coping**

Become apathetic or just don't care

Avoid thinking about the problem

Withdraw physically from the situation

### **Religious coping**

Turn to prayer or spiritual thoughts

Turn to my religious beliefs

Seek religious guidance religious



- Descriptives
- Moderated regressions

**Coping Strategies** 

ACTIVE PASSIVE RELIGIOUS

Military deployment stressors

Overall Deployment stressors Subscales:

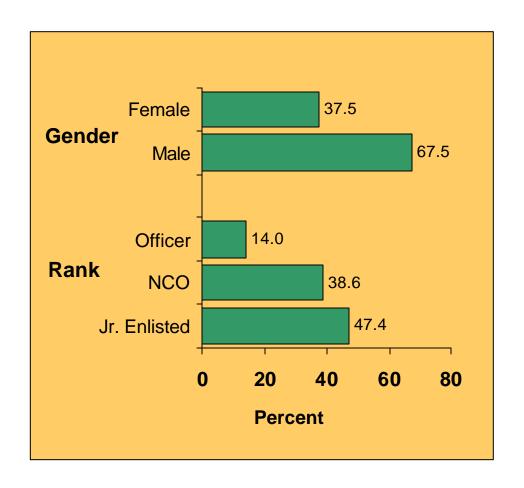
- 1) Work-deployment stressors.
- 2) Family-deployment stressors

Soldier health outcomes

- 1) CES-Depression
- 2) GHQ-12
- 3) Physical Health



## Sample Demographics (N=114)



<b>Marital Status</b>	
Married:	57.0%
Single:	33.3%
Sep./Div.:	9.7%
Race	
White:	42.5%
African Amer.:	35.4%
Hispanic:	10.6%
Asian:	6.2%
Other:	5.3%
Education	
High School:	36.3%
Some college:	46.0%
Bachelors deg	ree: 14.2%

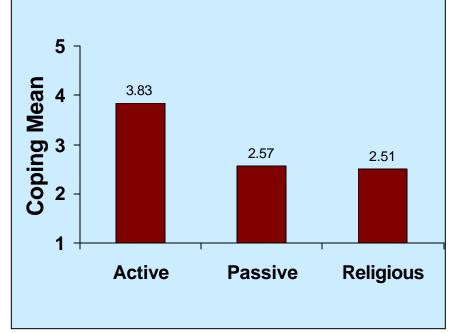
Graduate degree:

3.5%



### **Type of Coping**

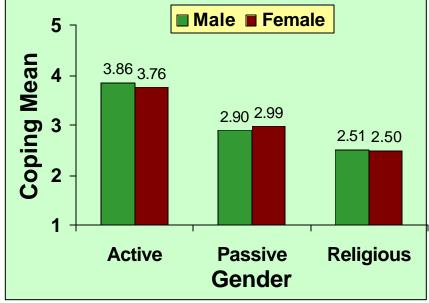
Overall, active coping was used to a greater extent than was passive and religious coping.



There were no significant differences in active, passive or religious coping styles between men and women.

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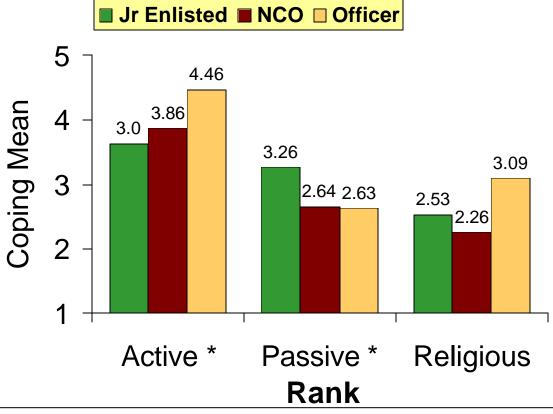
Male Female





## Type of Coping by Rank

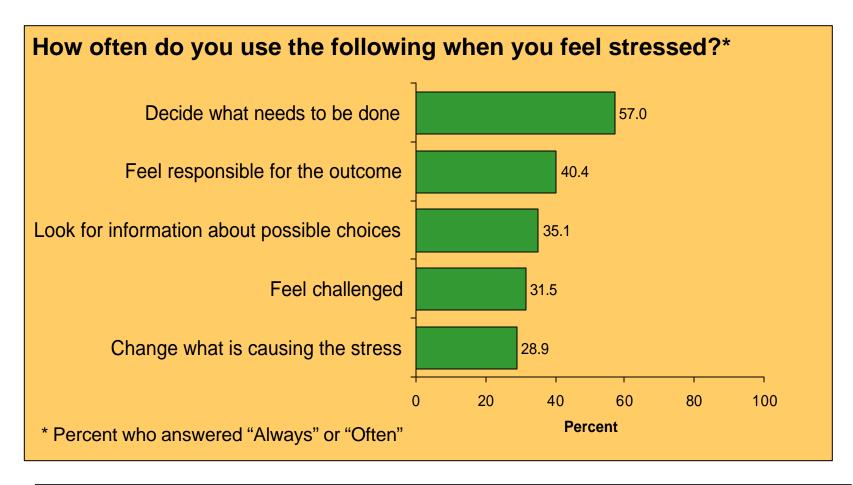
• Officers reported higher levels of active coping (F(2,109) = 6.35, p<.002) than Junior enlisted and NCOs, while junior-enlisted soldiers reported higher levels of passive coping than NCOs and officers (F(2,109) = 7.16, p<.001)





## **Type of Coping – Active**

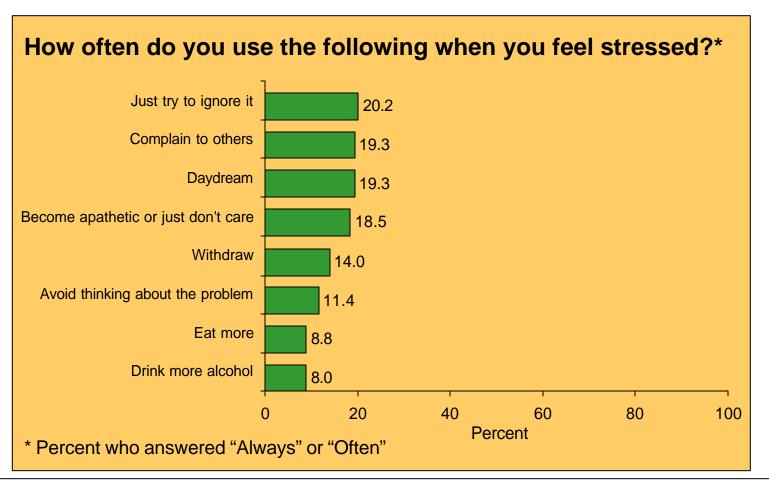
 The most common active coping strategy is "decide what needs to be done."





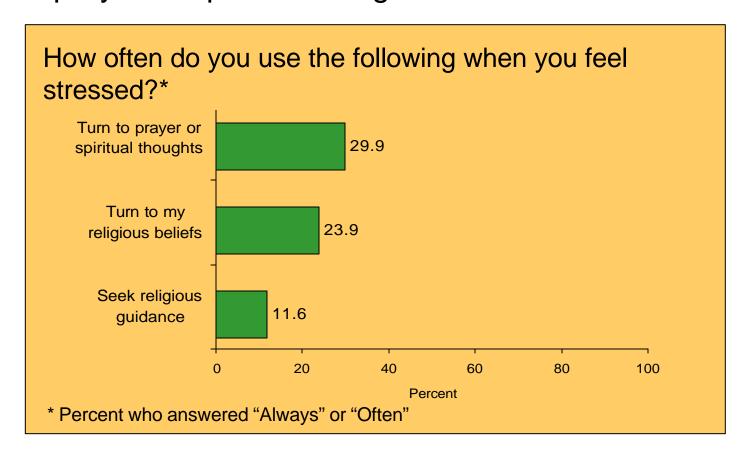
## **Type of Coping – Passive**

• The most common passive coping technique used was "just try to ignore it."



## Type of Coping – Religious

 The most commonly used religious coping strategy was "turn to prayer or spiritual thoughts."



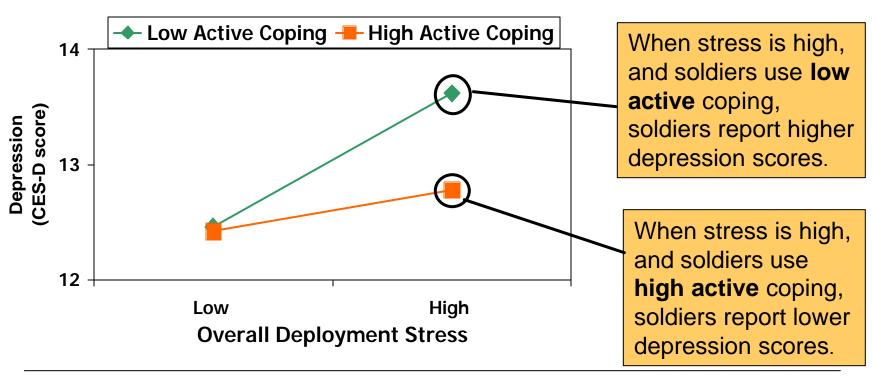


- Active coping buffered the effects of overall stress levels on health
- Passive coping style intensified the effects of family stressors on health
- Religious coping style neither buffered nor intensified the effects of stressors on health



## **Deployment Stressors & Depression**

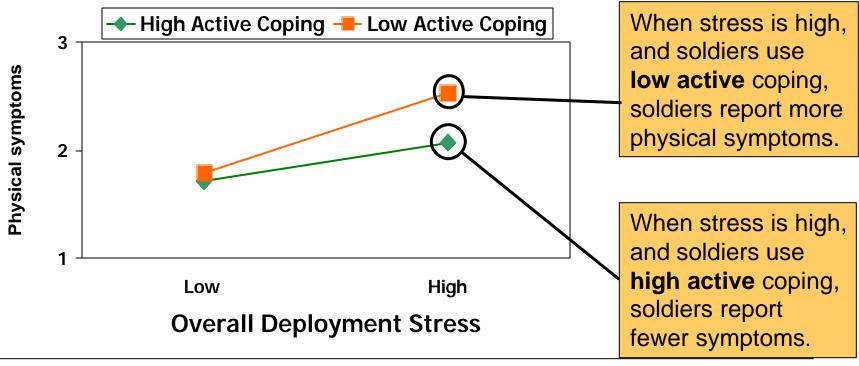
- Using active coping as a moderator, the impact of overall deployment stressors on soldier wellbeing was assessed.
- Active coping buffered the effects of overall stress levels
   High deployment stressors + low active coping = more depression





## **Deployment Stressors & Physical Symptoms**

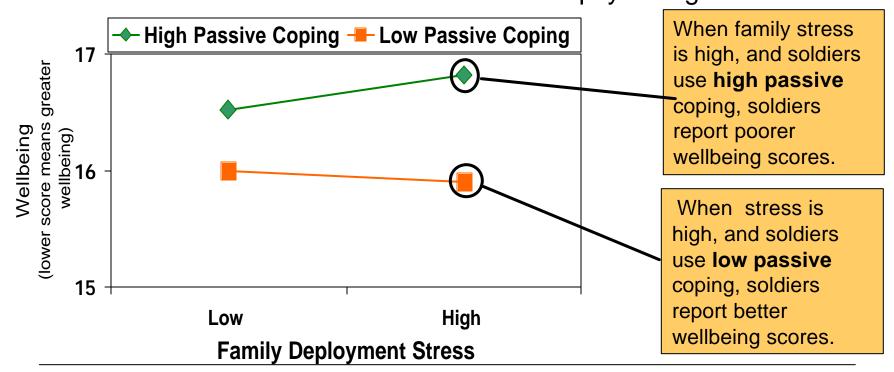
- Using active coping as a moderator, the impact of overall deployment stressors on soldier physical health was assessed.
- Active coping buffered the effects of overall stress levels
   High deployment stressors + low active coping = more physical symptoms





## Family Stressors & Psychological Distress

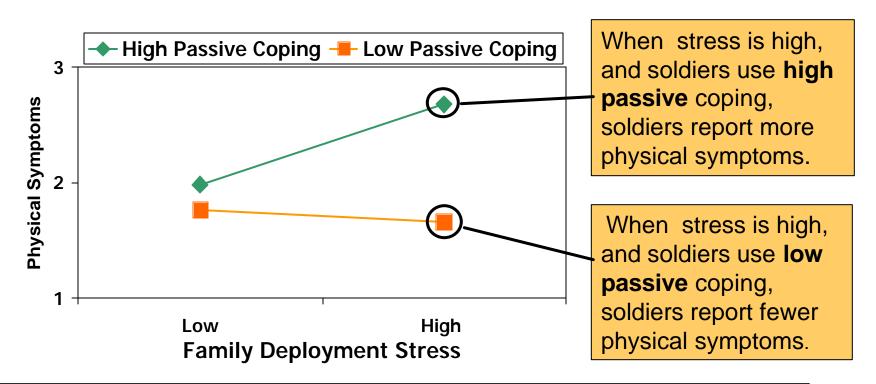
- Using passive coping as a moderator, the impact of family deployment stressors on soldier wellbeing was assessed.
- Passive coping style intensified the effects of family stressors
   High family-deployment stressors + high passive coping = more psychological distress





## Family Stress & Physical Symptoms

- Using passive coping as a moderator, the impact of family deployment stressors on soldier physical health was assessed.
- Active coping buffered the effects of family stress levels
   High family deployment stressors + high passive coping = more symptoms





- Higher overall deployment stressors predict lower psychological and physical health
  - Active coping can moderate this relationship
- Higher family-deployment stressors predict lower psychological and physical health
  - Passive coping can intensify this relationship
- Work-deployment stressors were not moderated by coping
- Soldiers can and do use active coping strategies in dealing with real-world military deployment stressors



## **Enhance active coping**

- Train active coping skills
- Provide information about deployment
- Disseminate information about stress and its effects
- Encourage exercise





## **Recommendations: Passive Coping**

## Reduce passive coping

- Provide time off to relax
- Make communication links to family available
- -Increase social involvement





Mail call



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### **Soldier OPTEMPO Survey**

U.S. Army Medical Research Unit-Europe, Walter Reed Army Institute of Research U.S. Army Medical Research and Materiel Command

### **Privacy Act/Informed Consent Information**

ver: 29 Nov 1999

OPTEMPO Survey

- 1) Authority: 10 U.S.C. Sections 136 and 5 U.S.C. 552a; Executive Order 9397
  2) Purpose: USAMRU-E/WRAIR is conducting a study of soldiers' responses to OPTEMPO and PERSTEMPO.
- 3) Uses: I understand the purpose of this survey is to develop information to benefit soldiers and units, and that I may not directly benefit from this survey.
- 4) Disclosure: Disclosure of your Social Security Number is voluntary. I consent to the use of my answers by staff of the U.S. Army Medical Research-Europe, Walter Reed Army Institute of Research (USAMRU-E/WRAIR), to compile statistics of group data.

I understand my name or any other data from which I could be recognized will not be available to anyone beyond the professional staff conducting the study. I understand I have the right to withdraw my consent to participate in the study at any time.

I understand USAMRU-E/WRAIR may access other military records identified by, or filed under, my social security number in conjunction with this survey.

#### RESULTS ARE CONFIDENTIAL! **Instructions:** - Use a #2 pencil - Mark your answer by filling in the bubble completely like this: **SOCIAL SECURITY NUMBER:** YOUR AGE: TODAY'S DATE: DAY YEAR MONTH $0\bigcirc 0$ JAN 2000 2001 **FEB** 3 3 ( MAR 2 2002 2 APR 2003 **MAY** JUN JUL **AUG SEP OCT NOV DEC** Number of GENDER: **CURRENT MARITAL STATUS:** Indicate **Highest ETHNICITY:** children living Level of Education at home; Single (Never Married) Female obtained: African-Am/Black Married Male Asian 1 Separated Some High School Hispanic 2 Divorced High School White 3 Widowed Diploma/ GED Other 4 Some College 5 Bachelor's Degree 6 or more Graduate Degree WHAT IS YOUR MOS? **COMPONENT: RANK: YOUR UNIT:** (Answer in 3 digits only. Example: a Squad: Army "67B would bubble in "6," "7," and "B.") Navy K 0 0 Platoon: Air Force O L В 1 1 ( Marines 2 M C Company: N D STATUS: 4 O Ε Battalion: Active 5 P ( F Reserves 6 Q Guard R ( 7 H Other: O Civilian 8 S

Other?

Do you have a <b>family member</b> enrolled in the  Exceptional Family  Member Program  (EFMP)?  Yes No   Is your <b>spouse</b> in the military?  Yes No  Not Married	Example: I	f you've been in 9 uld write in and	How man have you the past	u avera	aged <b>per</b>	vork r day in	On average, <b>hours</b> did ye	the past week. how many
How many days have yo been on a training exercing the past 6 months?  Example: If it is 19, should write and bubble "0" and then "1," and "10" and then "10" and	in the passing many days you performed work?	t week, how s have you military related	and/c	or passe n in the hs?	days of less have ge past 12	you	How many and/or passe lost in the pmonths?	days of leave es have you past 12  0 0 1 2 3 4 5 6 7 8 9 9
<b>TDY</b> in the past 6 months? slee	many hours of p have you aged per night e past week?  0 0 1 0 1 0 2 0 3 4 0 5 6 6 7 0 8 9 9	Vietnam, Persia Grenada, Panar Somalia)  Yes No C  Have you ever s on a peacekeep humanitarian mission?	an Gulf, ma,  erved ing or	total in th (e.g. Bost Mac	, have y <b>Balka</b> Kosovo nia, Croa	months in ou served in Region o, Albania, atia, Hungary?	completed t	ts have you hat lasted more s? (not including reises or

Please use the following scale to tell us how much you <b>agree</b> or <b>disag</b> with the statements below:	Strongly Strongly Strongly Strongly
<ol> <li>I am proud to be in the U.S. Army</li> <li>I am an important part of my company</li> <li>What I do in the Army is worthwhile</li> <li>My company is ready for combat</li> <li>I am confident in my unit's mission-essential equipment</li> <li>I think we are better trained than most other companies in the Arm</li> <li>I think the level of training in this company is high</li> <li>I have real confidence in my unit's ability to perform its mission</li> <li>If we went to war tomorrow, I would feel good about going with</li> <li>I think my unit would do a better job in combat than most U.S. Ar</li> <li>The members of my unit are cooperative with each other</li> <li>The members of my unit stand up for each other</li> <li>The officers in my unit establish clear work objectives</li> <li>The officers in my unit delegate work effectively</li> <li>The officers in my unit let soldiers know when they have done a g</li> <li>The officers in my unit are interested in what I think and how I fee</li> <li>The NCOs in my unit are interested in my personal welfare</li> <li>The NCOs in my unit are interested in my personal welfare</li> <li>The NCOs in my unit are interested in what I think and how I fee</li> <li>The NCOs in my unit are interested in what I think and how I feel</li> <li>The NCOs in my unit are interested in what I think and how I feel</li> <li>The NCOs in my unit are interested in what I think and how I feel</li> <li>The leaders in this company would lead well in combat</li> <li>I am impressed by the quality of leadership in this company</li> <li>My chain-of-command works well</li> </ol>	my unit my units  r  good job el about things  od job od job
In your opinion, what is the ideal length of time in <b>months</b> that a deployment should last?	In your opinion, what is the ideal <b>number</b> of deployments that a soldier should go on over a 3 year period?
	0 1 2 3 4 5 6 or more  O O O O O O
Which best describes your current active-duty Army <b>career</b> intentio  1. <b>Definitely</b> stay in until retirement (or longer)  2. <b>Probably</b> stay in until retirement  3. <b>Definitely</b> stay in beyond my present obligation, but not necess  4. <b>Undecided</b> about whether to stay after completion of my curre  5. <b>Probably</b> leave upon completion of my current obligation  6. <b>Definitely</b> leave upon completion of my current obligation	arily until retirement
When you <b>leave</b> active duty, do you plan on serving in the Reserves of Yes Undecided No	or National Guard? Not Applicable

Please rate the following:	Top In Valley Hell
<ol> <li>Your personal morale</li> <li>Morale in your unit</li> <li>Cohesion in your unit</li> <li>Quality of life in your unit</li> <li>Mission readiness of your unit</li> <li>Level of training in your unit</li> <li>Standards of discipline in your unit</li> <li>Your level of burnout</li> <li>Your level of motivation</li> <li>Your level of drive</li> </ol>	
How many days during the past week have you had each of the following feelings or experiences?	Odays law 2days days days bays bays
<ol> <li>Felt you couldn't get going</li> <li>Felt sad</li> <li>Had trouble getting to sleep or staying asleep</li> <li>Felt everything was an effort</li> <li>Felt lonely</li> <li>Felt you couldn't shake the blues</li> <li>Trouble keeping your mind on what you were doing</li> </ol>	
Have you recently:	TA REAL PROPERTY OF THE PARTY O
<ol> <li>been able to concentrate on whatever you're doing?</li> <li>lost much sleep over worry?</li> <li>felt that you are playing a useful part in things?</li> <li>felt capable of making decisions about things?</li> <li>felt constantly under strain?</li> <li>felt that you couldn't overcome your difficulties?</li> <li>been able to enjoy your normal day-to-day activities?</li> <li>been feeling unhappy and depressed?</li> <li>been losing confidence in yourself?</li> <li>been thinking of yourself as a worthless person?</li> <li>been feeling reasonably happy, all things considered?</li> </ol>	

Please indicate how ofte symptoms over the <b>past</b> n		enced the fol	lowing physica	al health	NO.	ALITH	OFTEN A	W OF THE	<i>V</i>
1. Head colds 2. Sinus troubles 3. Constipation 4. Headaches 5. Back problems 6. Allergies 7. Skin rash 8. Cough 9. Chills/Fever 10. Diarrhea 11. Aching joints and both 12. Stomach intestinal understand in the stinal unde	mps  mps  hands embling exercising) (not exercisin nenstrual diffic n):	ulties				000000000000000000000000000000000000000	000000000000000000000000000000000000000		000000000000000000000000000000000000000
How many work days I you missed due to illnes the past 30 days?	nave s <b>in</b>	seen by <b>a</b>	times have you health care prot 30 days?	ou been ovider	ma did <b>ex</b>	ring the parting the parting days I you do parting for the parting the parting the parting days and the parting th	_		
1		1 2 3	1 0 2 0 3 0 4 0 5 0 7 0 8 9			0 1 2 3 4 5 6 7	00000000		
During the past week, what is the average number of times per day you used <b>tobacco</b> (i.e. cigarettes smoked, cigars smoked, smokeless tobacco used)?	Which <b>tobac</b> products, if a you used this Mark all that	ny, have week?	During the pa is the average caffeine you day? (Count to cups of coffee with caffeine)	amount of have had p the number e, tea, or so	er y	Ouring the many alcoword had? of wine of shot of	o <b>holic d</b> i (1 drink r 1 bottle	<b>rinks</b> 1 c = 1 gl	nave ass
0 0 1 0 10 2 0 20 3 0 30 4 0 4 0 5 0 50 6 0 60 7 0 70 8 0 80 9 9	cigarettes cigars smokeless to other (specify		0 1 2 3 4 5 6 7 8 9			0 1 2 3 4 5 6 7 8 9	) (1) (2) (3) (4) (4) (5) (6) (6) (6) (6) (6) (6) (6) (6) (6) (6		

Please use the following scale to tell us how much you agree or disagree with the statements below.	Strongely Rentral Representations of the Strongely Rentral Rentral Representations of the Strongely Rentral Ren
1. I rarely feel my work is taken for granted. 2. My superiors generally appreciate the way I do my job. 3. The organization recognizes the significance of the contributions I make. 4. My job is very challenging. 5. It takes all my resources to achieve my work objectives. 6. Other people know me by the long hours I keep. 7. The soldiers in my unit think that what's expected of us is clear. 8. The soldiers in my unit think that what's expected of us is reasonable. 9. I work at my full capacity in all of my job duties. 10. I strive as hard as I can to be successful in my work. 11. When I work, I really exert myself to the fullest. 12. I feel responsible for my job performance. 13. I am committed to my job. 14. How well I do in my job matters a great deal to me. 15. How I do in my job influences how I feel. 16. I have personal control over my job performance. 17. Once I am given instructions, I am pretty much left alone to do my job. 18. I am allowed to do my job without constant supervision from others. 19. I am very satisfied with my job in the Army. 20. I like my job in the Army. 21. I am satisfied with the kind of work I do on my job. 22. I have so much work to do that I cannot do everything well. 23. I never seem to have enough time to get everything done. 24. My job leaves me with little time to get things done. 25. I feel that what I am doing is important for accomplishing my unit's mission. 26. I am making a real contribution to accomplishing my unit's mission. 27. What I do helps accomplish my unit's mission.	
Please rate how much you <b>agree</b> or <b>disagree</b> with the following:	THE REAL PROPERTY OF THE PROPE
<ol> <li>The demands of my work interfere with my home and family life.</li> <li>The amount of time my job takes up makes it difficult to fulfill family responsibilities.</li> <li>Things I want to do at home do not get done because of the demands my job on me.</li> <li>My job produces strain that makes it difficult to fulfill family duties.</li> <li>Due to work-related duties, I have to make changes to my plans for family activities.</li> <li>The demands of my family or spouse/partner interfere with work-related activities.</li> <li>I have to put off doing things at work because of demands on my time at home.</li> <li>Things I want to do at work do not get done because of the demands of my family or spouse/partner.</li> <li>My home life interferes with my responsibilities at work such as getting to work on time, accomplishing daily tasks, and working overtime.</li> <li>Family-related strain interferes with my ability to perform job-related duties.</li> </ol>	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Do you have a	ny comments?	Yes O	No O		
f yes, please write them in the space provided below.					

Thank You